Commissioners,

I disagree (in part) with your Proposed Revisions to Part 15, specifically to the section regarding Advanced Antenna Technologies.

Your conclusion that sectorized and phased array antenna systems may resemble point-to-point operation at any given moment is incorrect. If more than one user is in one sector/phased array of the antenna at once, the connection is point-to-multipoint. Your proposal to allow such systems to operate at the same power levels as point-to-point directional antennas will cause interference to other similar unlicensed devices.

Under the current spread spectrum rules for unlicensed Part 15 use in the 2.4 GHz band, omnidirectional antennas are limited to 1 watt transmitter output power and an antenna gain of 6 dBi, which results in 4 watts E.I.R.P. The transmitter output power must be reduced the same dB amount that the antenna gain exceeds 6dBi, fixing the maximum E.I.R.P. at 4 watts. On the other hand, fixed directional antennas for point-to-point use can have higher E.I.R.P. levels by decreasing the maximum peak output power by 1 dB for every 3 dB that the antenna gain exceeds 6dBi.

With many homes and business users using wireless networking devices operating in the same 2.4 GHz spectrum, the potential for interference in populated areas is a major concern if your proposal is adopted. If Wireless Internet Service Providers are allowed to vary their E.I.R.P. dynamically sector-by-sector, intermittent interference will be a concern for many wireless 802.11b and 802.11g users. Every Part 15 user has to accept interference and allowing WISPs to have greater E.I.R.P. will only increase interference.

Conversely, the interference in rural America would be minimal and the benefits great. Your proposal would be wonderful for providing broadband access to rural America. I propose that your proposal be implemented in rural areas where interference is minimal. 4 watts E.I.R.P. should be maintained for metropolitan area sectorized and phased array 2.4GHz antennas.